US007025783B2

(12) **United States Patent**
Brady et al.

(10) **Patent No.: US 7,025,783 B2**
(45) **Date of Patent: Apr. 11, 2006**

(54) **ACCOMMODATING INTRAOCULAR LENS WITH INTEGRAL CAPSULAR BAG RING**

(75) Inventors: **Daniel G. Brady**, San Juan Capistrano, CA (US); **Stephen W. Laguette**, Laguna Niguel, CA (US); **Marlene L. Paul**, Laguna Niguel, CA (US); **Elbert Y. Tzeng**, Irvine, CA (US); **Robert E. Glick**, Lake Forest, CA (US)

(73) Assignee: **Advanced Medical Optics, Inc.**, Santa Ana, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 85 days.

(21) Appl. No.: **10/341,701**

(22) Filed: **Jan. 14, 2003**

(65) **Prior Publication Data**

US 2003/0135272 A1 Jul. 17, 2003

Related U.S. Application Data

(60) Provisional application No. 60/348,705, filed on Jan. 14, 2002, provisional application No. 60/372,309, filed on Apr. 12, 2002.

(51) **Int. Cl.**
A61F 2/16 (2006.01)

(52) **U.S. Cl.** **623/6.22**; 623/6.24; 623/6.47; 623/6.49

(58) **Field of Classification Search** 623/6.11, 623/6.13, 6.14, 6.15, 6.17, 6.18, 6.19, 6.2, 623/6.21, 6.22, 6.24, 6.38, 6.4, 6.43, 6.46, 623/6.47, 6.49, 6.51, 6.52, 6.53, 6.54
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,483,509 A 2/1924 Bugbee
2,129,305 A 9/1938 Feinbloom
2,274,142 A 2/1942 Houchin
2,405,989 A 6/1946 Beach
2,511,517 A 6/1950 Spiegel
3,004,470 A 10/1961 Ruhle
3,031,927 A 5/1962 Wesley

(Continued)

FOREIGN PATENT DOCUMENTS

AU 3225789 10/1989

(Continued)

OTHER PUBLICATIONS

Menzo et al. J Cataract Refract. Surg 24, Aug. 1998.

(Continued)

Primary Examiner—Corrine McDermott
Assistant Examiner—Thomas J Sweet
(74) *Attorney, Agent, or Firm*—Advanced Medical Optics, Inc.

(57) **ABSTRACT**

An intraocular lens (IOL) includes an optic for focusing light, an outer ring for supporting the optic in a capsular bag of an eye and a plurality of radially spaced apart, elongated intermediate members connecting the optic to the outer ring. The intermediate members are configured to convert radial forces exerted by the capsular bag on the support ring into axial movement of the optic, allowing a presbyopic patient to more effectively focus on near objects. The outer ring is preferably contoured to conform to the portion of the capsular bag between the anterior and posterior zonules, and has sufficient axial thickness to contact both sets of zonules. In addition, the edge of the ring includes at least one sharp edge corner to prevent epithelial cell growth toward the optic. In addition, the outer ring may include weakened areas configured to allow consistent and repeatable deformation in response to compressive forces.

3 Claims, 7 Drawing Sheets